



(19)

Generated Document.

(11) Publication number: **05021378 A**

**PATENT ABSTRACTS OF JAPAN**

(21) Application number: **03202931**

(22) Application date: **13.08.91**

(51) Int. Cl.: **H01L 21/28 H01L 21/205 H01L 21/225**

**H01L 21/28 H01L 21/82 H01L 21/3205**

**H01L 27/04 H01L 21/331 H01L 29/73**

**H01L 21/336 H01L 29/784**

(30) Priority: **31.08.90 JP 02228124**

(43) Date of application publication: **29.01.93**

(84) Designated contracting states:

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**(54) MANUFACTURE OF SEMICONDUCTOR DEVICE**

(57) Abstract:

**PURPOSE:** To provide a method of manufacturing a silicon film including boron which ensures excellent step-portion covering characteristic and is just suitable for

manufacturing process under a low temperature condition.

**CONSTITUTION:** An amorphous Si film is deposited by the pressure-reduced CVD method under a low temperature of 200 or higher and 400°C or lower using any one of disilane (Si<sub>2</sub>H<sub>6</sub>) or trisilane (Si<sub>3</sub>H<sub>8</sub>) and dibolane (B<sub>2</sub>H<sub>6</sub>). Thereby, a Si film including boron which ensures excellent step-portion covering characteristic can be formed. Using the obtained Si film as a diffusion source, extremely shallow junction may be formed.

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